

5. (Amended) A host cell according to Claim 4, wherein the host cell is a pro- or eukaryotic cell.
6. (Amended) A host cell according to Claim 5, wherein the prokaryotic cell is E. coli.
7. (Amended) A host cell according to Claim 5, wherein the eukaryotic cell is a yeast cell, mammalian cell, insect cell or plant cell.
8. (Amended) A transgenic organism, with the exception of humans, containing a nucleic acid according to Claim 1.
9. (Amended) An isolated polypeptide which is encoded by a nucleic acid according to Claim 1.
10. (Amended) A receptor comprising an EcR subunit and a polypeptide according to Claim 9.
11. (Amended) An antibody which binds specifically to a polypeptide according to Claim 9.
12. (Amended) A process for the preparation of a polypeptide which is encoded by a nucleic acid according to Claim 1, comprising the steps of:
- (a) culturing a host cell comprising a nucleic acid according to Claim 1 under conditions which ensure the expression of the nucleic acid according to Claim 1, and
  - (b) obtaining the polypeptide from the cells or the culture medium.
13. (Amended) A process for the preparation of a nucleic acid according to Claim 1, comprising the steps of:
- (a) chemically synthesizing the complete nucleic acid,
  - (b) chemically synthesizing oligonucleotides, labelling the oligonucleotides, hybridizing the oligonucleotides with DNA of an

- insect cDNA library, selecting positive clones and isolating the hybridizing DNA from positive clones, or
- (c) chemically synthesizing oligonucleotides and amplification of the target DNA by means of PCR.

14. (Amended) A regulatory region which naturally controls the transcription of a nucleic acid according to Claim 1 in insect cells and which ensures specific expression.

15. (Amended) A method of finding new active compounds for crop protection, in particular compounds which cause the activation or inhibition of a polypeptide which is encoded by a nucleic acid according to Claim 1, comprising the steps of:

- (a) providing a host cell comprising a nucleic acid according to Claim 1,
- (b) culturing the host cell in the presence of a chemical or a mixture of chemicals, and
- (c) detecting the activation or inhibition of the polypeptide or receptor.

16. (Amended) A method of finding a compound which binds to a polypeptide according to Claim 9, comprising the steps of:

- (a) contacting a polypeptide according to Claim 9 with a compound or a mixture of compounds under conditions which permit the interaction of the compound or mixture of compounds with the polypeptide, and
- (b) identifying the compound which binds specifically to the polypeptide.

17. (Amended) A method for inducibly expressing target genes with a polypeptide which is encoded by a nucleic acid according to Claim 1 comprising the steps of:

- (a) culturing a host cell comprising a nucleic acid according to Claim 1 under conditions which ensure the expression of the nucleic acid according to Claim 1, where the host cell comprises a target gene with suitable regulatory sequences, and

Q<sup>4</sup>

--20. A host cell comprising a vector according to Claim 2.

22. A transgenic organism, with the exception of humans, containing a vector according to Claim 2.

23. A transgenic organism, with the exception of humans, containing a vector according to Claim 3.

24. A method of finding new active compounds for crop protection, in particular compounds which cause the activation or inhibition of a receptor comprising an EcR subunit and a polypeptide which is encoded by a nucleic acid according to Claim 1 comprising the steps of:

- (a) providing a host cell comprising a nucleic acid according to Claim 1,
- (b) culturing the host cell in the presence of a chemical or a mixture of chemicals, and
- (c) detecting the activation or inhibition of the polypeptide or receptor.

25. A method for inducibly expressing target genes with a polypeptide which is encoded by a nucleic acid according to Claim 1 comprising the steps of:

- (a) providing a transgenic organism other than a human, comprising a target gene with regulatory sequences and a nucleic acid according to Claim 1, and
- (b) contacting the transgenic organism with a chemical which induces the expression of the target gene.

25

26. A method according to Claim 25, wherein the transgenic organism comprises a vector comprising a nucleic acid encoding a polypeptide with the bioactivity of the ultraspiracle protein, comprising a sequence selected from

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- (a) the sequence of SEQ ID NO: 1,
  - (b) sequences which have at least 85% identity with the sequence of SEQ ID NO: 1 over a length of at least 600 consecutive nucleotides,
  - (c) sequences which, owing to the degeneracy of the genetic code, encode the same amino acid sequence as the sequences defined under (a) and (b), and
  - (d) parts of the sequences as defined under (a), (b) and (c) which encode polypeptides which have essentially the same bioactivity as a polypeptide with the amino acid sequence of SEQ ID NO: 2.

27. An isolated nucleic acid encoding a polypeptide with the bioactivity of the ultraspiracle protein, comprising the sequence of SEQ ID NO: 1.

28. A isolated polypeptide which is encoded by a nucleic acid according to Claim 27.--